

WHAT IS CLAIMED IS:

- 1 1. A method of passing N-bit word data over an M-bit channel, M being less than N,
2 each N-bit word having a first portion and a second portion, the method comprising:
3 transferring the first portion of each of X words in M-bit groups, X being at least two;
4 and
5 transferring at least one other bit group, the at least one other bit group including bits
6 from the second portions of at least two of the X words.
- 1 2. The method of claim 1, further comprising:
2 joining, for each of the X words, the second portion to the corresponding transferred
3 first portion, the second portion being extracted from the transferred at least one other bit
4 group.
- 1 3. The method of claim 1, wherein the first portion includes M bits of encoded
2 information, and the second portion includes encoding information.
- 1 4. The method of claim 3, wherein the second portion further includes DC content
2 balancing information.
- 1 5. The method of claim 3, wherein N is 10, M is 8.
- 1 6. The method of claim 5, wherein the M-bit channel includes a Digital Visual Interface
2 (DVI) portion.
- 1 7. The method of claim 5, wherein the first portion is a most-significant bits portion, and
2 the second portion is a least-significant bits portion.

- 1 8. The method of claim 1, wherein the first portion is a most-significant bits portion, and
2 the second portion is a least-significant bits portion.
- 1 9. The method of claim 1, wherein the first portion is a least-significant bits portion, and
2 the second portion is a most-significant bits portion.
- 1 10. The method of claim 1, wherein X is an integer and multiple of $M/(N-M)$.
- 1 11. The method of claim 10, wherein X is 4.
- 1 12. The method of claim 1, wherein the bit-length of the first portion is an integer multiple
2 of M.
- 1 13. The method of claim 1, wherein the bit-length of the second portion is less than M.
- 1 14. The method of claim 1, further comprising storing the N-bit word data in X locations
2 at a first rate, each location being N-bits wide, wherein each N-bit word is stored in one of the
3 X locations, and transferring includes reading from the X locations at a second rate, the
4 second rate being faster than the second rate.
- 1 15. The method of claim 1, wherein the at least one other bit group includes M bits.
- 1 16. The method of claim 1, further comprising arranging for transfer the N-bit word data
2 at a first rate, wherein transferring is at a second rate, the second rate being at least as fast as
3 the first rate.
- 1 17. The method of claim 16, wherein the second rate is faster than the first rate.
- 1 18. The method of claim 16, wherein the second rate is N/M times faster than the first rate.

- 1 19. The method of claim 16, wherein the first portion of each of X words are transferred in
2 a sequence corresponding to an order by which each of X words was provided.
- 1 20. The method of claim 1, further comprising:
2 arranging for transfer X N-bit words in a first storage element; and
3 arranging for transfer, while transferring the first portion of each of X words and at
4 least one other bit group, another X N-bit words in another storage element.
- 1 21. The method of claim 20, further comprising:
2 for each of the X words, joining the second portion to the corresponding transferred first
3 portion, the second portion being extracted from the transferred at least one other bit group.
22. An apparatus for passing N-bit word data over an M-bit channel, M being less than N,
1 each N-bit word having a first portion and a second portion, comprising:
2 means for transferring the first portion of each of X words in M-bit groups; and
3 means for transferring at least one other bit group, the at least one other bit group
4 including bits from the second portions of at least two of the X words.
- 1 23. The apparatus of claim 22, further comprising:
2 means for joining, for each of the X words, the second portion to the corresponding
3 transferred first portion, the second portion being extracted from the transferred at least one
4 other bit group.
- 1 24. The apparatus of claim 22, further comprising means for storing the N-bit word data in
2 X locations at a first rate, each location being N-bits wide, wherein each N-bit word is stored
3 in one of the X locations, and transferring includes reading from the X locations at a second
4 rate, the second rate being faster than the first rate.

1 25. The apparatus of claim 22, further comprising means for arranging for transfer the N-
2 bit word data at a first rate, wherein transferring is at a second rate, the second rate being at
3 least as fast as the first rate.

1 26. The apparatus of claim 22, further comprising:
2 means for arranging for transfer X N-bit words in a first storage element; and
3 means for arranging for transfer, while transferring the first portion of each of X words
4 and at least one other bit group, another X N-bit words in another storage element.

27. A apparatus for passing N-bit word data over an M-bit channel, M being less than N,
1 each N-bit word having a first portion and a second portion, comprising:
2 a first circuit arrangement adapted to transfer the first portion of each of X words in
3 M-bit groups; and
4 a second circuit arrangement adapted to transfer at least one other bit group, the at
5 least one other bit group including bits from the second portions of at least two of the X
6 words.

1 28. The apparatus of claim 27, further comprising:
2 a receive circuit arrangement adapted to join, for each of the X words, the second
3 portion bits to the corresponding transferred first portion, the second portion bits being
4 extracted from the transferred at least one other bit group.

1 29. The apparatus of claim 27, further comprising a storage element adapted to store the
2 N-bit word data in X locations at a first rate, each location being N-bits wide, wherein each N-
3 bit word is stored in one of the X locations, and transfer includes reading from the X locations
4 at a second rate, the second rate being faster than the second rate.

1 30. The apparatus of claim 27, further comprising another circuit arrangement adapted to
2 arrange for transfer the N-bit word data at a first rate, wherein transferring is at a second rate,
3 the second rate being at least as fast as the first rate.

1 31. The apparatus of claim 27, further comprising:
2 a circuit arrangement adapted to arrange for transfer X N-bit words in a first storage
3 element; and
4 a circuit arrangement adapted to arrange for transfer, while transferring the first
5 portion of each of X words and at least one other bit group, another X N-bit words in another
6 storage element.

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